



## The association of weather and bathing water quality on the incidence of gastrointestinal illness in the west of Scotland

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### Abstract:

**SUMMARY:** The associations with weather and bathing water quality on infectious intestinal disease (IID) were investigated using data from two Scottish NHS Board areas. Monthly counts of viral and non-viral gastrointestinal infections were modelled as a smooth function of temperature, relative humidity and average monthly counts of faecal indicator organisms, respectively, adjusting for season and long-term trend effects. Strong seasonal patterns were observed for each group of pathogens. Peak viral gastrointestinal infection was in May while that of non-viral gastrointestinal infections was in July. A statistically significant negative association existed between weather (temperature and humidity) and viral infection. Average levels of non-viral gastrointestinal infections increased as temperature and relative humidity increased. Increasing levels of faecal indicator organisms in bathing waters were also associated with an increase in the average number of viral and non-viral gastrointestinal infections at the ecological level. Future climate change and prolonged precipitation events may result in increasing levels of faecal indicator organisms in bathing waters leading to likely increases in IIDs.

**Source:** <http://dx.doi.org/10.1017/s0950268813002148>

### Resource Description

#### Exposure :

weather or climate related pathway by which climate change affects health

Food/Water Quality, Meteorological Factors, Temperature

**Food/Water Quality:** Pathogen

**Temperature:** Fluctuations

#### Geographic Feature:

resource focuses on specific type of geography

None or Unspecified

#### Geographic Location:

resource focuses on specific location

Non-United States

# Climate Change and Human Health Literature Portal

**Non-United States:** Europe

**European Region/Country:** European Country

**Other European Country :** Scotland

**Health Impact:** ☐

specification of health effect or disease related to climate change exposure

Infectious Disease

**Infectious Disease:** Foodborne/Waterborne Disease

**Foodborne/Waterborne Disease (other):** gastroenteritis

**Resource Type:** ☐

format or standard characteristic of resource

Research Article

**Timescale:** ☐

time period studied

Time Scale Unspecified